

Teaching the Operational Art Using Reflective Practice

**A Monograph
by
Lieutenant Colonel James J. Klingaman
United States Army, Infantry**



**School of Advanced Military Studies
United States Army Command and General Staff College
Fort Leavenworth, Kansas
Academic Year 02-03**

20041105 134

REPORT DOCUMENTATION PAGEForm Approved
OMB No. 074-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing this collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE 26 May 2004	3. REPORT TYPE AND DATES COVERED Monograph	
4. TITLE AND SUBTITLE Teaching the Operational Art Using Reflective Practice			5. FUNDING NUMBERS	
6. AUTHOR(S) James J. Klingaman, LTC, USA				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Army Command and General Staff College School of Advanced Military Studies 250 Gibbon Ave. Fort Leavenworth, KS 66027			8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Army Command and General Staff College Fort Leavenworth, KS 66027			10. SPONSORING / MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES				
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release; distribution is unlimited.			12b. DISTRIBUTION CODE A	
13. ABSTRACT (Maximum 200 Words) See Attached				
14. SUBJECT TERMS			15. NUMBER OF PAGES 48	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT U	18. SECURITY CLASSIFICATION OF THIS PAGE U	19. SECURITY CLASSIFICATION OF ABSTRACT U	20. LIMITATION OF ABSTRACT none	

NSN 7540-01-280-5500

Standard Form 298 (Rev. 2-89)
Prescribed by ANSI Std. Z39-18
298-102

ABSTRACT

Teaching the Operational Art Using Reflective Practice by LTC James J. Klingaman, USA, 48 pages.

The concept of operational art was added to U.S. Army doctrine in the mid-1980s. It is intended to provide a bridge between the complex, ethereal, and many times ambiguous national strategic aims, and the relatively mechanical, straightforward, and scientific execution of tactical actions. It is called 'art' because it demands creativity and vision. As the contemporary operating environment becomes more complex, the requirements for 'good art' increase. Unfortunately, the U.S. Army Officer Education System (OES) does not use any education methods specifically formulated to teach art. The ongoing transformation of the OES does not offer a good solution. In fact, the competency-based learning model recommended in Cubic Applications Intermediate Level Education Needs Analysis might be a step in the wrong direction, especially regarding education of operational practitioners.

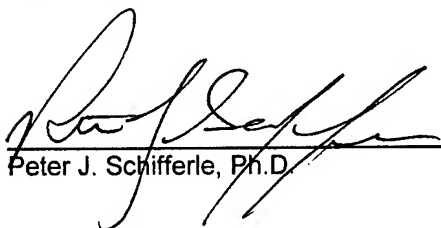
Another solution may exist. The late Doctor Donald A. Schön, former Ford Professor of Urban Studies and Education at the Massachusetts Institute of Technology established a theory for how art is successfully taught. He called his resulting method "reflective practice." This monograph examines reflective practice and advocates it as a method for teaching Army Majors the operational art. The monograph conducts this analysis of reflective practice in the context of the ongoing transformation of Command and General Staff College (CGSC), largely driven by the Cubic Applications analysis and recommendations. The monograph concludes that reflective practice should be incorporated into the curriculum at CGSC, and makes several recommendations in that regard.

**SCHOOL FOR ADVANCED MILITARY STUDIES
MONOGRAPH APPROVAL**

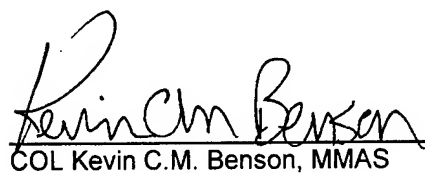
Lieutenant Colonel James J. Klingaman

Title of Monograph: Teaching the Operational Art Using Reflective Practice

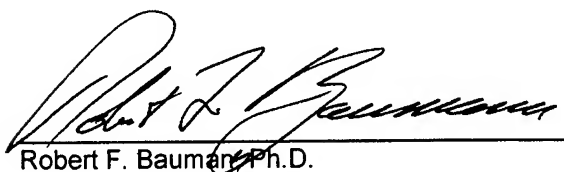
Approved by:


Peter J. Schifferle, Ph.D.

Monograph Director


COL Kevin C.M. Benson, MMAS

Director, School
of Advanced Military Studies


Robert F. Bauman, Ph.D.

Director, Graduate Degree
Program

ABSTRACT

Teaching the Operational Art Using Reflective Practice by LTC James J. Klingaman, USA, 48 pages.

The concept of operational art was added to U.S. Army doctrine in the mid-1980s. It is intended to provide a bridge between the complex, ethereal, and many times ambiguous national strategic aims, and the relatively mechanical, straightforward, and scientific execution of tactical actions. It is called 'art' because it demands creativity and vision. As the contemporary operating environment becomes more complex, the requirements for 'good art' increase. Unfortunately, the U.S. Army Officer Education System (OES) does not use any education methods specifically formulated to teach art. The ongoing transformation of the OES does not offer a good solution. In fact, the competency-based learning model recommended in Cubic Applications Intermediate Level Education Needs Analysis might be a step in the wrong direction, especially regarding education of operational practitioners.

Another solution may exist. The late Doctor Donald A. Schön, former Ford Professor of Urban Studies and Education at the Massachusetts Institute of Technology established a theory for how art is successfully taught. He called his resulting method "reflective practice." This monograph examines reflective practice and advocates it as a method for teaching Army Majors the operational art. The monograph conducts this analysis of reflective practice in the context of the ongoing transformation of Command and General Staff College (CGSC), largely driven by the Cubic Applications analysis and recommendations. The monograph concludes that reflective practice should be incorporated into the curriculum at CGSC, and makes several recommendations in that regard.

TABLE OF CONTENTS

Chapter 1, Introduction.....	1
The Operational Art.....	1
Methodology.....	3
The Problem.....	3
Chapter 2, The Contemporary Leavenworth Education.....	14
Chapter 3, Reflective Practice.....	20
Chapter 4, Analysis, Assessment, and Conclusion.....	28
Quality of Instruction.....	29
Training Versus Education.....	30
The Personnel System.....	33
Practice.....	34
Anti-Intellectualism.....	35
The Operational Art.....	36
Chapter 5, Recommendations.....	38
Teaching the Operational Art in ILE.....	38
Teaching the Operational Art in AOWC.....	39
Teaching the Operational Art in AMSP.....	40
Operational Artists.....	42
Final Thoughts.....	44
Bibliography.....	46

CHAPTER 1

INTRODUCTION

Above all, the twenty-first-century U.S. military will require an officer corps of unprecedented versatility and intelligence. One great source of American strength in recent decades has been the excellence of its military training system. The practices and outlook of the military toward advanced civilian and military education, however, have not kept pace with the rest of the training system . . . And yet never more than today has there been a need for officers who can think broadly and creatively, who can learn swiftly about unfamiliar regions of the world, and who will fall prey neither to clichés nor to comforting assumptions about societies, military organizations, or war itself.¹

Eliot Cohen, "A Tale of Two Secretaries."

The focus of this monograph is on the United States Army's Officer Education System (OES) and how it teaches and how students learn the operational art. This study determines whether or not a particular educational theory called reflective practice can improve the education of Army Majors at the Command and General Staff College. Specifically, it determines that reflective practice can improve learning of the operational art in the Intermediate Level Education (ILE) program, the Advanced Operations and Warfighting Course (AOWC), and the Advanced Military Studies Program (AMSP).

The Operational Art

Operational art is defined in current joint doctrine as, "the employment of military forces to attain strategic and/or operational objectives through the design, organization, integration, and conduct of strategies, campaigns, major operations, and battles. Operational art translates the joint force commander's strategy into operational design and, ultimately, tactical action, by

¹ Eliot A. Cohen, "A Tale of Two Secretaries," *Foreign Affairs* 81 no. 3 (May/June 2002): 44.

integrating the key activities at all levels of war.”² Whereas this seems fairly straightforward, the concept of a level of war (operational) that bridges the long-recognized levels of strategic and tactical is relatively new to the U.S. Army. In 1994, while conducting research at the Army’s Center for Military History, Lieutenant Colonel Clayton Newell wrote, “While strategy and tactics are old and familiar terms in the U.S. Army, operational art is not. The Army officially introduced the operational level of war into its doctrine only in 1982 and the concept of operational art only in 1986.”³ Conduct of operational art is where ethereal, complex, and sometimes-ambiguous strategic goals are translated into executable tactical actions. This is done in the extremely complex world that is affected by diplomatic, informational, and economic factors, along with a myriad of complex military considerations like force generation, deployments, theater level logistics, and the like. The ever-increasing complexity of the contemporary operating environment only exacerbates the difficulty of competent practice of the operational art. This extremely complex and uncertain environment, coupled with the requirement to turn lofty strategic goals into concrete, mechanical tactical actions, is what generates the requirement for art at the operational level. In fact, according to Shimon Naveh, a noted military theorist, “the introduction of the term ‘operational art’ in the 1986 field manual [FM 100-5, *Operations*] marked the definite recognition of *creativity* [emphasis in the original] as the basic quality required from operational commanders.”⁴

² Joint Chiefs of Staff, *Joint Publication 1-02, Department of Defense Dictionary of Military and Associated Terms* (Washington, D.C.: U.S. Government Printing Office, 12 April 2001), 318.

³ Clayton R. Newell, “On Operational Art,” *On Operational Art*, eds., Clayton R. Newell and Michael D. Krause (Washington, D.C.: Center of Military History, 1994), 9-10.

⁴ Shimon Naveh, *In Pursuit of Military Excellence* (London: Frank Cass, 1997), 12.

Methodology

First, this monograph frames the overarching problem, and that is that the Army has done a mediocre job of conducting the operational art. It then uses recent commentary by credible authors to show that the Officer Education System and the overall intellectual climate within the Army may contribute to this mediocrity. A list of characteristics of the intellectual and educational climate within the Army is distilled from this discussion, and these are later used as part of the criteria to evaluate possible changes to the system. The monograph then analyzes the current methods and models in use or emerging for use at the Army's Command and General Staff College. It then describes a theory called reflective practice as a means of teaching art. Following that, the current and emerging methods are compared against reflective practice using two sets of criteria. The first, discussed briefly above, is the positive or negative impact on the current intellectual climate within the Army; and the second, and most important, is the potential for the varying educational methods to successfully be used to teach the operational art. After these conclusions are made, some recommendations for change are advocated in the final chapter as one possible way to address the problem.

The Problem

The derisive myth of the 'Jedi Knight' casts the SAMS student in the role of insipid officer-geek armed with a light saber eloquently spouting passages from Clausewitz's *On War*.⁵

Dr. James Schneider, "What If We Fight Tonight?"

The Officer Education System has, arguably, inadequately prepared its field grade officers to practice the operational art. This is one of the factors that led to operational

⁵ James Schneider, "What If We Fight Tonight," Fort Leavenworth, KS: School of Advanced Military Studies, 15 February 1995, 11.

mediocrity since the end of the Cold War. Examples include the escape of the Republican Guard Divisions of Saddam Hussein's Iraqi Army and the subsequent unsatisfactory cease fire negotiations by General Norman Schwarzkopf in 1991; the campaign or lack thereof with the employment of a Joint Special Operations Task Force (JSOTF) in Mogadishu, Somalia in 1993 (known as Task Force Ranger); the "virtual war" fought by NATO in Kosovo in 1999; and, some might say, the ongoing war against terrorism, specifically the campaign planning for offensive operations against Al Qaeda in Afghanistan and the post-conflict operations in both Afghanistan and Iraq.⁶ Understandably, there has been a clarion call for improved operational performance. The difficulty of achieving this is immense, particularly in light of the complexity of the operational environment and the ongoing global war on terrorism. Officer education is one area on which many authoritative commentators have pinned their greatest hopes to gain improvement. General Henry Shelton, Eliot Cohen, Williamson Murray, Lloyd Matthews, Jeffrey McCausland, Leonard Wong and others have expressed the need for better education for the officer corps, particularly for practitioners of the operational art.⁷

Since the end of the Cold War, there has been a significant and growing criticism of the officer education system and calls for reform. The OES clearly had produced officers that could

⁶ See Michael R. Gordon and Bernard E. Trainor, *The Generals' War* (Boston: Little, Brown and Company, 1995) For a fairly comprehensive and relevant account of the operational planning for Operations Desert Shield and Desert Storm. Of particular interest for the purposes of this monograph are Chapter 6, "High Diddle Diddle;" Chapter 7, "The Western Excursion;" and Chapter 19, "The Gate is Closed." In this book, Gordon and Trainor contend that the initial operational planning was mediocre at best, some of which was done by the SAMS graduate "Jedi Knights." It culminated in a fairly poor cease fire agreement between Schwarzkopf and the Iraqi regime with a perceived lack of strategic direction which later would lead to successful quashing of Shiite uprisings in southern Iraq by Saddam Hussein. For discussion of Task Force Ranger see Mark Bowden, *Black Hawk Down* (New York: Atlantic Monthly Press, 1999). This book is a well-known account of the battle that occurred in Mogadishu on 3-4 October 1993. Most useful is the "Epilogue", although it contains no reference to campaign planning per se. Many documents associated with this operation remain classified and, therefore, outside the limitations of the monograph. Suffice it to say that the JSOTF operations in Mogadishu were a tactical success, but clearly an operational failure. Note: The author of this monograph served as the Assistant Operations Officer for TF Ranger for the initial planning and execution of operations in Somalia. For discussion of US and NATO operations in Kosovo see Michael Ignatieff, *Virtual War* (New York: Henry Holt, 2000).

operate effectively enough to win the Cold War, but the increasingly complex operational environment and the downsizing of the Army caused frequent calls for reformation of the OES. Survey of a myriad of professional military and other publications shows a general convergence of assessments concerning the education of military officers and the cultural implications of them within the Army. The first characteristic fomented by a combination of the OES and long-standing Army culture is anti-intellectualism.

Anti-intellectualism is a characteristic of the current U.S. Army culture, widely acknowledged by varying authoritative sources, including the author's informal discussion with a serving four star general.⁸ The most comprehensive analysis and discussion of this aspect of Army culture is Lloyd Matthews' two-part piece in *Army Magazine* entitled "The Uniformed Intellectual and His Place in American Arms." In Part I of his series, "Anti-intellectualism In the Army Yesterday and Today," Matthews explains why anti-intellectualism exists within the military culture. According to Correlli Barnett, who Matthews uses to sum up this phenomenon, "Their [military officers'] traditions were against books and study and in favour of a hard gallop, a gallant fight, and a full jug The preference for character over intellect, for brawn over brain, has always taken the form of denigration of the staff college graduate."⁹ Matthews attributes such anti-intellectualism to the ascendancy of the "Man of Action" instead of the "Contemplative Man." In essence, Matthews contends that the intellectual officer does not and has rarely, if ever, received any respect from the institution that he serves. In America this anti-intellectualism was born of our "rough-hewn and homespun life incident to establishing

⁷ Relevant articles by these authors and others have been listed in the bibliography.

⁸ Discussion occurred in 2002 between the author and an active duty U.S. Army general at the Command and General Staff College at Fort Leavenworth, Kansas under the policy of "non-attribution."

⁹ Correlli Barnett as quoted by Lloyd Matthews, "The Uniformed Intellectual And His Place in American Arms, Part I: Anti-intellectualism In the Army Yesterday and Today," *Army Magazine* 52 no. 7 (July 2002): 18.

ourselves as pioneers on the shores of a savage continent.”¹⁰ Matthews advocates the intellectual officer as a whole man who embodies the characteristics of both the Man of Action and Contemplative Man. During the courses of this discussion he lists his conclusions in this regard, which are: All human beings are part intellectual, part action. In other words there is no such thing as being all brain or all brawn, every man is a combination in varying proportions. Secondly, intellectual officers are not geeks. The quintessential military intellectual described by Brian Reid as “diminutive, blinking, bespectacled swot whose muscles compare with peas and who grows exhausted after lifting a knife and fork,” with rare exception, no longer exists in the U.S. Army.¹¹ Next, Matthews points out that teachers and authors are not necessarily intellectuals, and intellectuals are not necessarily teachers and authors. Also, that intellectual and intelligent are not the same things. There are plenty of very intelligent officers in the Army, many of whom, unfortunately, do not have the intellectual capabilities to maximize their effectiveness. Lastly, those who possess graduate degrees are not necessarily intellectuals, and intellectuals do not necessarily possess graduate degrees.¹² This is an important distinction, as it preempts the simple solution of sending officers to graduate school in an effort to improve education and performance.

Unfortunately Matthews’ analysis does not prescribe any remedy for anti-intellectualism in the Army other than by implication. He calls for acknowledgement of the requirement for and the utility of the intellectual officer, but falls short of describing how to produce the intellectual officer by design.

¹⁰ Matthews, Part I, 19.

¹¹ Brian Holden Reid as quoted by Matthews, Part I, 20.

¹² This summary of Matthews’ conclusions is from Part I, 20-25. Purposely not listed was “Not all defense intellectuals are in the military,” because that particular conclusion is not relevant to this monograph.

The second characteristic of the Army that provides some measure of obstacle to sufficient education is the distinction or lack thereof, between training and education. The post Vietnam revitalization of the Army in general and the officer corps in particular was due, in large part, to the development of Army training doctrine focused on performance oriented training.¹³ This training system focused almost entirely on the conduct of tactical training that was mechanical rather than intellectual in nature. Eliot Cohen wrote, "One great source of American strength in recent decades has been the excellence of its military training system The practices and outlook of the military toward advanced civilian and military education, however, have not kept pace with the rest of the training system. Technical degrees are generally rewarded. Advanced work in the social sciences and humanities, however, is often regarded as a ticket to be punched rather than an opportunity to grow."¹⁴

Clearly a trained and ready force arrayed against the Red Army of the Soviet Union on the European continent was the product of the Army's revitalized training system and was, therefore, sufficient and satisfactory in that environment. Absent the OES, the military reforms legislated by Goldwater-Nichols and Cohen-Nunn helped move the military toward greater operational success after the failure of the 1979 hostage rescue operation in Iran and 1983 clumsy operation to seize the island of Grenada.¹⁵ Currently the contemporary operating environment is much more ambiguous and complex than it was during the Cold War era, and

¹³ Department of the Army, *Field Manual 25-100, Training the Force* (Washington, D.C.: U.S. Government Printing Office, 1988). This doctrinal reference lists performance oriented training as one of the key principals of Army training. It states, "Units become proficient in the performance of critical tasks and missions by practicing the tasks and missions. Soldiers learn best by doing, using a hands-on approach."

¹⁴ Cohen, 44.

¹⁵ For specific reform legislated see: United States Senate, *Public Law 99-433, The Department of Defense Reorganization Act of 1986* (Washington, D.C.: U.S. Government Printing Office, 1986).and United States Senate, *Public Law 99-661, National Defense Authorization Act for Fiscal Year 1987* (Washington, D.C.: U.S. Government Printing Office, 1986).

therefore requires officers with much more intellectual agility. Some have argued quite persuasively that this sort of intellectual agility is more a product of education than of training, and that the OES is too tilted toward training. The Intermediate Level Education Study by Cubic Applications stated,

Both the CGSC mission statement and its vision statement contain the words that highlight the tension that has always existed in Bell Hall and its predecessor buildings: 'educate' and 'education.' This tension has existed because the CGSOC curriculum has always contained courses and lessons that were clearly *training* [emphasis in the original], not education and the difference is important. Training, especially as the US Army has refined it, carries the connotation that the person being trained receives knowledge that is given in some fashion by the trainer/instructor. Training has a very practical aspect to it; that is, the trained person should be able to do something concrete or visible or produce something tangible after the training. Education is associated with developing the mind, using superior methods to expand the intangible powers of the mind of the person being educated. Thus, although the CGSC faculty has usually spoken in educational terms, much of what it has executed, whether in content or in the methods employed, was clearly training.¹⁶

The Army's personnel system and officer professional development norms have reinforced the cultural anti-intellectualism already discussed, and have failed to reward, indeed have punished, officer intellectuals. In short, the Army has intentionally and continuously rewarded officers who pursue assignments with tactical units and who spend the least amount of time possible at school or teaching assignments. A CGSC briefing to a visiting Congressional Delegation in January 2003 quite plainly stated, "Current CGSOC faculty assignment process provides inexperienced instructors and assignment is not career enhancing."¹⁷ In Lloyd Matthews' estimation, "our seniors today are highly conventional operators, an operator being

¹⁶ Cubic Applications, Inc. *Intermediate Level Education Needs Analysis* (Leavenworth, Kansas, 2001) 4-1.

¹⁷ United States Army Command and General Staff College, *Brief for Representative Ike Skelton on Officer Education System (OES) Transformation* (27 January 2003), 13, copy in the hand of James Klingaman, Command and General Staff College, Fort Leavenworth, Kansas.

one who has single-mindedly pursued command or command-qualifying assignments to the exclusion of all others. While they are superb at organizing and running things in the traditional mold, they are lamentably unequipped to conceptualize newly superior solutions themselves or even to recognize the arrival of a new idea whose time has come.”¹⁸ In partial recognition of this aspect of the personnel system, the Army has created its Officer Personnel Management System XXI (OPMS XI), which attempts to provide improved opportunities for advancement to those officers who do not strictly confine themselves to an operational command focus.¹⁹ Matthews’ assessment is that this move will not significantly change the “operators’ stranglehold” on the routes to the top of the pyramid.²⁰ Closely related to the seemingly universal man-of-action primacy over the contemplative man, this organizational trait is clearly evident in other armies. British historian B.H. Liddell Hart perhaps best described the effect of this operator-centric approach when he wrote, “Ambitious officers, when they came in sight of promotion to the generals’ list, would decide that they would bottle up their thoughts and ideas as a safety precaution until they reached the top and could put these ideas into practice. Unfortunately, the usual result, after years of repression for the sake of their ambition, was that when the bottle was eventually uncorked the contents had evaporated.”²¹

¹⁸ Lloyd Matthews, “The Uniformed Intellectual And His Place in American Arms, Part II: The Effects of Anti-intellectualism On the Army Profession Today,” *Army Magazine* 52 no. 8 (August 2002): 38.

¹⁹ United States Army, Department of the Army Pamphlet 600-3, Commissioned Officer Development and Career Management (Washington, D.C: U.S. Government Printing Office, 1 October 1998) 1. This document states, in part, “This pamphlet documents the first significant revision to the Officer Personnel Management System (OPMS) since 1984. This comprehensive effort, titled OPMS XXI, is essential because fundamental change is required for the Army officer corps to lead forces in the early 21st Century across the full spectrum of crisis. The intent of OPMS XXI is to enhance the warfighting capability of the Army; to provide all officers with a reasonable opportunity for success; and to fulfill Army requirements with an officer corps balanced with the right grades and skills.

²⁰ Matthews, Part II, 40.

²¹ B.H. Liddell Hart quoted by Matthews, Part II, 40.

The quality of the teachers at OES institutions is also an issue, related to the personnel policies and operator-centrism that contributes to a system in need of change. As cited by the Cubic analysis, “This challenge is complicated by the constant shortage of the two most valuable resources available to the College [CGSC]: talented instructors and classroom time.”²² Teaching at the Army’s Command and General Staff College is a low priority assignment that is not career enhancing. Many of the uniformed faculty there are actually in their last assignment at the end of their military careers. As a group they generally have no outstanding experience, education, or training that enables them to effectively teach particularly complex subjects. The aforementioned briefing to a Congressional Delegation regarding the transformation of the officer education system stated that of the current CGSOC faculty, only thirty-seven percent have operational experience at the division level or higher and only thirty-four percent have ever served in a joint assignment. Additionally, this briefing pointed out that a full twenty-one percent of the officers teaching CGSOC have never graduated from that resident course, and that there is absolutely no tenured military faculty.²³ Teachers within CGSC at the School of Advanced Military Studies, on the other hand, are tenured civilians who possess relevant terminal degrees, or active duty Senior Service College (SSC) graduates who have completed a rigorous year in the Advanced Operational Art Studies Fellowship, although they do not necessarily all have relevant experience at the operational level. So in the case of SAMS, there are high-quality instructors; whereas in CGSOC, where the large preponderance of Army field grade officers is educated, the quality of the instructors is mediocre. Eliot Cohen wrote, “officers spend a great deal of time in the schoolroom, more than any other group of professionals. Yet

²² Cubic, 4-2.

²³ CGSC briefing, 16.

there is no evidence that the heads of the war colleges are selected for their competence as educational leaders. No serious proposals exist for creating a military academy that would train field-grade officers from all the services in the new forms of operational art.”²⁴ In an article about educating officers in the art of strategy, Doctor Williamson Murray, a senior fellow at the Institute for Defense Analysis, contends that the success enjoyed by the U.S. Army during World War II was directly attributable to the quality of the officer education system. According to him, not only was it career enhancing to attend the Command and General Staff College, it was also career enhancing to teach there.²⁵

Lastly, there are precious few opportunities for officers to practice the operational art. Dr. Murray accurately describes the role of education in the practice of the military profession,

In a profession where the practitioners cannot realistically practice for much of the time in their careers (in peacetime) what they are paid to do (wage war), education has provided a crucial bridge to clarify the emerging concepts, doctrine, and military thinking—in other words to prepare the minds of future wartime military leaders and planners for the terrifying and uncertain world in which their decisions will directly affect the lives of their soldiers and may determine the fate of their nation.²⁶

Murray contends that the Army did a magnificent job using education to bridge the gap in experience that resulted in the successes of World War II. Doctor Peter Schifferle, who wrote his doctoral dissertation on the OES from 1919-1945 cited General George C. Marshall, “At Leavenworth he ‘learned how to learn,’ how to analyze a problem and reach decisions.”²⁷ During the 1950’s, however, the OES began its decline. Murray wrote that by the mid-1980’s,

²⁴ Cohen, 44.

²⁵ Williamson Murray, “The Army’s Advanced Strategic Art Program,” *Parameters* XXX no. 4 (Winter 2001): 32.

²⁶ Murray, 31.

²⁷ George C. Marshall quoted by Peter Schifferle, “Anticipating Armageddon: The Leavenworth Schools and U.S. Army Military Effectiveness 1919 to 1945” (Ph.D. diss., University of Kansas, 2002), 169.

“the American military’s institutions of professional education, both at the command and staff and at the war college levels, had largely turned themselves into institutions where golf, softball, and getting close to the family counted for more than the challenge of mastering the profession of arms.”²⁸

In 2000 the Chief of Staff of the Army (CSA), General Shinseki directed a comprehensive study of leader development that resulted in the Army Training and Leader Development Panel (ATLDP). This study resulted in a myriad of recommendations for change, including those to modify OES. As a result of this study, General Shinseki wrote, “The Officer Education System (OES) is being adapted to meet the needs of the transforming Army and the realities of the contemporary operating environment.”²⁹ Subsequently, Cubic Applications Inc. completed its ILE Needs Analysis that included an in-depth examination of CGSOC and recommendations for change. The question at this juncture is whether or not the emerging programs at CGSC (ILE, AOWC, and AMSP) will correct the deficiencies cited regarding OES, and ultimately, can reflective practice do any better.

The theory of reflective practice developed by Donald Schön may offer a means by which to correct this deficiency. He contends that students can learn art and indeterminate knowledge through the process of reflective practice.³⁰ This process may offer an avenue for our

²⁸ Murray, 32.

²⁹ Eric Shinseki, “Department of the Army Memorandum, Subject: Army Training and Leader Development Panel (Officer) Recommendations and Ongoing Actions” (22 Jan 2002): 2.

³⁰ Donald A. Schön, *Educating the Reflective Practitioner* (San Francisco, Jossey-Bass, 1990), 6. Here Schön defines this indeterminate zone. “These indeterminate zones of practice—uncertainty, uniqueness, and value

officers to learn that which our institutions find most difficult to teach—the operational art.

conflict—escape the canons of technical rationality. When a problematic situation is uncertain, technical problem solving depends on the prior construction of a well-formed problem—which is not itself a technical task. When a practitioner recognizes a situation as unique, she cannot handle it solely by applying theories or techniques derived from here store of professional knowledge. And in situations of value conflict, there are no clear and self-consistent ends to guide the technical selection of means.”

CHAPTER 2

THE CONTEMPORARY LEAVENWORTH EDUCATION

Those who would reform any part of the US Army's education system have always been guided (and, at times, misguided) by a passion to meet the national military needs at hand. On the other hand, those who would maintain the status quo believed that diligent, rigorous, and sometimes-repetitious application of accepted standards and practices hone the intellect to respond with familiarity to unfamiliar circumstances. The reformers never prevailed when they attacked the diligence, the rigor, or the repetition. Rather, they succeeded only to the degree to which they convinced the bulk of the US Army culture that the "accepted standards and practices" prevalent in its schools were no longer relevant to the national needs.³¹

Cubic Applications, *ILE Needs Analysis*

In early February 2003, Chief of Staff of the Army General Eric Shinseki approved several initiatives aimed at transforming the Officer Education System, many of which had been recommended by the Army Training and Leader Development Panel. One of the initiatives approved by General Shinseki was the new Intermediate Level Education (ILE) which replaces the Command and General Staff Officers Course (CGSOC) for Army Majors.³²

Intermediate Level Education is universal, meaning that all Army Majors have the opportunity to gain this level of education in one form or another. The length and form of ILE is dependent upon the officer's branch or other specialty. The Special Assistant for Leader Development to the Commandant of CGSC stated, "this program will produce field grade officers with a warrior ethos who are grounded in warfighting doctrine, and who have the

³¹ Cubic Applications, Incorporated, *Intermediate Level Education (ILE) Needs Assessment* (Leavenworth, KS, 2001), 1.

³² Staff Sergeant Maria Triggs, "Army to Transform Officer Education System," *Army News Service* (4 February, 2003), 1.

technical, tactical, and leadership competencies and skills to be successful in their career field, branch, or functional area.”³³ Under the ILE concept, all officers will complete the three-month long core program. This portion of ILE will be taught at Fort Leavenworth for those in the Operations Career Field, while officers in other fields will complete their resident instruction at other campus sites.³⁴ Additionally, those officers in the Operations Career Field will remain at Fort Leavenworth for the subsequent seven-month Advanced Operations and Warfighting Course (AOWC) which “will focus on planning and executing full-spectrum operations at the tactical and operational levels.”³⁵

The over arching educational theory or model that ILE and AOWC are founded on is called the Competency Based Learning Model (CBLM). This is the model that Cubic Applications recommended to the Command and General Staff College after conducting some study of existing models and current practices. Specifically, Cubic examined and compared four educational methods: Socratic, Thematic, Experiential, and Competency Based. Cubic also conducted examinations of ongoing educational programs at the Combined Arms Services and Staff School (CAS3), the College of Naval Command and Staff, the Marine Corps Command and Staff College, the Air Command and Staff College, the Armed Forces Staff College, the Advanced Military Studies Program, the Army Management Staff College, and the Army War

³³ Colonel Mike Griswold quoted by Triggs. 1.

³⁴ According to Department of the Army Pamphlet 600-3, Commissioned Officer Development and Career Management, dated 1 October 1998, The Operations Career Field is comprised of officers—trained, educated and experienced in combat arms, combat support and combat service support operations. Warfighters in the Operations Career Field are experts in the full spectrum of operations, including the deployment, employment and sustainment of ground forces engaged in armed combat with an enemy force. The Operational CF includes nearly all basic branch officers as well as Functional Areas 39 (Psychological Operations and Civil Affairs) and 90 (Multifunctional Logistician Program).

³⁵ Triggs, 2.

College. For their evaluation criteria, Cubic used Bloom's Taxonomy, a traditional method of describing educational learning objectives.³⁶

Bloom's Taxonomy is a simple structure that classifies the intended end state behavior of the student. It is hierarchical, and from low to high consists of the following range of desired behaviors: knowledge, comprehension, application, analysis, synthesis, and evaluation.³⁷

Cubic's analysis of the various staff college curricula measured and categorized the programs of instruction using this taxonomy. Each specific curriculum was described as a percentage of instruction that falls into each category of the taxonomy, with the least desirable result being a curriculum that aims wholly at producing knowledge, and with the most desirable result being a curriculum that aims wholly at producing evaluation. The real-world result of each curriculum is normally a mix across many of the six categories. The Air Command and Staff College, for example, was analyzed by Cubic as seventy-five percent comprehension, application, and analysis, with the remaining twenty-five percent in synthesis and evaluation.³⁸

The Advanced Military Studies Program (AMSP) was singled out amongst the Leavenworth School programs for educational excellence by Cubic. According to their analysis and application of Bloom's Taxonomy, this course achieves the following levels: knowledge, two percent; comprehension, sixteen percent; application, thirty-one percent; analysis, thirty-seven percent; synthesis, twelve percent; and evaluation, two percent. AMSP achieves these results by making "expert use of all the learning models. Socratic and thematic models are used daily in the expansion of knowledge and comprehension material gained through homework.

³⁶ Cubic, 8-2.

³⁷ Summarized from Cubic, 8-2 to 8-3. The Cubic study refers liberally to the authoritative work on this taxonomy. See Benjamin S. Bloom, ed., *Taxonomy of Educational Objectives Book 1 Cognitive Domain* (Longman, New York, 1956).

³⁸ Cubic, 10-13.

Numerous multidimensional problem solving opportunities taking advantage of student critical thinking skills are provided through carefully crated and integrated full-spectrum simulations and scenarios.”³⁹

AMSP does indeed have a fine reputation, but its educational excellence has been overstated. The Socratic method clearly dominates teaching at AMSP, and the primary teachers there have very little experience or instruction in their teaching roles. These teachers, graduates of the Advanced Operational Arts Studies Fellowship, receive approximately two weeks of informal and unremarkable Socratic instruction in teaching methodology to prepare them to facilitate the learning of the Army Majors in AMSP.⁴⁰ Whereas education at AMSP is extraordinary relative to other courses at CGSC, it can still benefit from improvement because like the other courses it does not employ any method to specifically teach students operational art. This specific problem is indicative of a larger problem with the ILE study.

The potential defect of the Cubic analysis is that it appears to compare methods of instruction (Socratic, thematic) with methods of learning (experiential), with methods of curriculum development (competency based). It also very loosely and inductively connects learning achievement (using Bloom’s Taxonomy) with learning method (Socratic). The high praise given to AMSP is one good example.

The competency-based method recommended by Cubic appears to be a reasonable stratagem for determining what the desired outcome of ILE ought to be, but does not appear to describe how to achieve those results from a method of instruction standpoint. The Cubic analysis does acknowledge the usefulness of methods, and advocates the use of these methods

³⁹ Cubic, 10-20.

⁴⁰ Observations of the author while assigned to the Advanced Operational Art Studies Fellowship within the School of Advanced Military Studies during the 2002-2003 Academic Year.

within the curricula of ILE and AOWC. Their study concludes that the best method of teaching graduate level war fighting is a combination of Socratic, experiential, thematic, and competency-based learning.⁴¹ It also concludes that several vehicles can be utilized to achieve some of the desired competencies.

The vehicles that the Cubic study advocates are distance learning and technologically advanced education tools; and the application of computer-based simulations. Increased distance learning and emerging technology-based education tools are described within the context of the Officer Education System as an enabler and a time-saver, but are not directly linked as a component of competency based learning specifically required for ILE or AOWC. Application of computer-based simulations, on the other hand, is identified by the Cubic study as necessary for the experientially based learning of field grade officers. It states,

In the education of majors, there is and ought to be a tension between intellectual development and practical mastery. This tension, though healthy, puts a premium on the time students spend in either realm. Analysts unanimously agree that the present system to develop practical mastery is severely limited by the absence of any rigorous requirement to execute the plans that students have so carefully conceived and written. To be relevant and meaningful, any execution of a modern, complex operational plan will require the use of computer models and simulations.⁴²

This is a fairly cogent recommendation that ties desired competencies to a specific learning model (experiential) and provides a method (simulations) to reach the desired end.

Unfortunately, this example stands alone within the Cubic study, which falls short of providing prescriptions for learning models or methods to achieve the myriad of other desired field grade competencies.

⁴¹ Paraphrased from Cubic 1-4 to 1-5.

⁴² Cubic, 14-1.

The Cubic study does advocate the need to identify methods of instruction to establish desired competencies in majors attending ILE, but its recommendations are unremarkable. The study states, "The College [CGSC] is not, for the most part, using the best adult education methods known in American academic circles today. It is imperative that these superior education methods—Socratic, experiential, thematic, and competency-based—become the standard."⁴³ This analysis and this statement are extremely superficial—the Cubic study does not make the case that the listed methods (only two in actuality—Socratic and thematic) are the best available.⁴⁴ In fact, they are relatively antiquated and research indicates that while still valuable, there may be better methods available. One of these is reflective practice.

⁴³ Cubic, 20-4.

⁴⁴ The Cubic study lists its use of the Socratic, thematic, experiential and competency-based models in Chapter 9 of the ILE Needs Analysis. It states that the Socratic method "consists of a series of questions designed to elicit a clear and consistent expression of something supposedly implicitly known by all rational beings." (9-2) The study states that the "thematic method of instruction can best be described as a scenario that is arranged and delivered in a coherent, meaningful context. The scenario presented in a course must be sequential and connected much like episodes and chapters of books." (9-3) Experiential learning, on the other hand, "is learning that generally takes place outside the classroom whether it is on the job training, self-paced, or distance learning. The main point here is that the student/learner takes responsibility for his/her own education without the outside help of an instructor/teacher." (9-4) Competency based learning, according to Cubic, "is based on comprehensive research, and the defined competencies are found and understood to be the difference in separating average from superior performance. Competencies are the foundations for education and training within a profession." (9-5)

CHAPTER 3

REFLECTIVE PRACTICE

First bits and crumbs of the piece come and gradually join together in my mind; then the soul getting warmed to the work, the thing grows more and more, and I spread it out broader and clearer, and at last it gets almost finished in my head, even when it is a long piece, so that I can see the whole of it at a single glance in my mind, as if it were a beautiful painting or a handsome human being; in which way I do not hear it in my imagination at all as a succession—the way it must come later—but all at once as it were. It is a rare feast. All the inventing and making goes on in me as in a beautiful strong dream. But the best of all is the hearing of it all at once.⁴⁵

- Amadeus Mozart

The theory of reflective practice was constructed by Donald Schön to describe how art, primarily performance arts, are learned and taught. It is not a theory he imagined or suspected and then went out to prove; rather he deduced the theory through disciplined and rigorous observation. He discovered how artists taught students and then described it. The result was the theory of reflective practice, which will be discussed, at length, in this chapter.

Schön began his work on what would become the theory of reflective practice in the early 1970s when a colleague asked him to participate in a study of architectural education. This was the genesis of Schön's work in the field, and resulted in his publication of *The Reflective Practitioner* in 1983.⁴⁶ His continued study and thought resulted in publication of *Educating the Reflective Practitioner* in 1987. Most relevant to this monograph is the latter because it outlines the theory of reflective practice that was the basis for the first and then goes on to posit how professional education institutions can teach art. This, Schön contends, can help solve what he refers to as a crisis in contemporary professional education.

⁴⁵ Amadeus Mozart quoted in Henry Mintzberg, *The Rise and Fall of Strategic Planning* (New York: The Free Press, 1994), 318.

⁴⁶ Summarized from Donald A. Schön, *Educating the Reflective Practitioner* (San Francisco, Jossey-Bass, 1990), xi.

The crisis to which Dr. Schön points is one of confidence in educational institutions to produce competent professionals. He states, "In spite of these different emphases, public, radical, and professional, critics voice a common complaint: that the most important areas of professional practice now lie beyond the conventional boundaries of professional competence."⁴⁷ This constitutes a crisis because it is this public confidence that really defines a profession. If professionals lose this public confidence, their status as professionals will be lost as well. Schön summarizes,

In return for access to their extraordinary knowledge in matters of great human importance, society has granted them a mandate for social control in their fields of specialization, a high degree of autonomy in their practice, and a license to determine who shall assume the mantle of professional authority. But in the current climate of criticism, controversy, and dissatisfaction, the bargain is coming unstuck. When the professions' claim to extraordinary knowledge is so much in question, why should we continue to grant them extraordinary rights and privileges?⁴⁸

In Schön's estimation, then, to keep the professions competent and relevant, educators must look to better methods for teaching professionals their respective professions. This goes beyond what Schön sees as the normal aspects of professional knowledge, which includes basic science, applied science, and technical skills associated with daily practice of the profession.⁴⁹

The normal epistemology of practice in professional educational institutions is what Schön calls technical rationality.⁵⁰ This, he says, "treats professional competence as the application of privileged knowledge to instrumental problems of practice."⁵¹ Educational

⁴⁷ Schön, ERP, 7.

⁴⁸ Schön, ERP, 7.

⁴⁹ Schön, ERP, 9.

⁵⁰ Epistemology is, according to *Webster's New World Dictionary*, "the study or the theory of the nature, sources, and limits of knowledge."

⁵¹ Schön, ERP, xi.

institutions, therefore, teach practitioners to solve problems using practical, technical means.⁵² These institutions rely on academic research as the basis for learning and they assume that such research results in useful professional knowledge, and that this knowledge will produce positive results in the real world.⁵³ This traditional approach seems, in the current environment, to result in professional mediocrity. The way to fix it, according to Schön, is to combine the aspects of intellectual research with professional practice; what he calls “reflection-in-action.” The best way to do this is for educational institutions to adopt methods of teaching not normally found in professional education. Schön proposes “that university based professional schools should learn from such deviant traditions of education for practice as studios of art and design, conservatories of music and dance, athletics coaching, and apprenticeship in the crafts, all of which emphasize coaching and learning by doing.”⁵⁴ These places are, in fact, where Schön formulated his theory of reflective practice. “We should start,” he said, “not by asking how to make better use of research-based knowledge but by asking what we can learn from a careful examination of artistry.”⁵⁵ The result, in Schön’s view, is reflective practice.

There are three basic premises of reflective practice. The first is that in each of the professions (generally referred to by Schön as law, medicine, teaching, and architecture), there is recognition that those who are unusually competent possess a “core of artistry.”⁵⁶ General, run-

⁵² Summarized from Schön, ERP, 3-4.

⁵³ Paraphrased from Schön, ERP, 9-10.

⁵⁴ Schön, ERP, xii.

⁵⁵ Schön, ERP, 13.

⁵⁶ Schön, ERP, 13.

of-the-mill competence can be achieved through technical and academic knowledge, but great competence demands much more. Unusually competent professionals possess wisdom, vision, and the uncanny ability to see what others fail to see. They are comfortable and show acumen in that indeterminate zone. Schön call this artistry, and the second premise of reflective practice is that artistry can be learned.

“Artistry,” Schön says, “is an exercise of intelligence, a kind of knowing, though different in crucial respects from our standard model of professional knowledge. It is not inherently mysterious; it is rigorous in its own terms; and we can learn a great deal about it . . . by carefully studying the performance of unusually competent performers.”⁵⁷ Doing so, can reveal the artists’ knowledge-in-action, and can lead to learning art.

The third and last basic premise of reflective practice is the recognition of the important, but reduced, role of traditional academic research-based knowledge in professional competence. This traditional knowledge is absolutely critical, says Schön, but must be bounded by artistry.⁵⁸ He states, “There are [sic] an art of problem framing, an art of implementation, and an art of improvisation—all necessary to mediate the use in practice of applied science and technique.”⁵⁹

The means by which Schön proposes to employ reflective practice is the reflective practicum that he defines as “a practicum aimed at helping students acquire the kinds of artistry essential to competence in the indeterminate zones of practice.”⁶⁰ This indeterminate zone is difficult to describe, which is why teaching and learning how to competently operate in it is problematic. Practitioners, particularly very competent ones, do not necessarily know how they

⁵⁷ Schön, ERP, 13.

⁵⁸ Paraphased from Schön, ERP, 13.

⁵⁹ Schön, ERP, 13.

⁶⁰ Schön, ERP, 18.

know what they know or even what they know. In a speech given in 1987, Schön used a simple illustration to illuminate what he meant by the indeterminate zone. He describes a situation in which a person riding a bicycle is about to fall to the left, and then he asks that in order not to fall this person should turn his front wheel in which direction. When pressured for a quick response, many people answer incorrectly (the correct answer is to the left). Schön points out that people that answer incorrectly do not often fall off bicycles. “So it raises the question of how it is that you could give the wrong answer and do the right thing.”⁶¹ This, alas, is fundamental to understanding what Schön is after with his theory—how can something be taught, when the teacher does not know how to describe how to do it, or even what he knows that allows him to do it? The answer, according to Schön, is that practitioner has “knowledge-in-action”—he knows what to do while doing it. This, then, is the centerpiece of the reflective practicum.

The practicum is more than just a practical exercise, it is a comprehensive environment of practice and learning where student and teacher work together to discover knowledge, method, and art. There are several critical aspects of Reflective Practice that comprise this environment that Schön calls the practicum. They are coaching, reflection-in-action, student-coach dialogue, and the removal of learning impediments.⁶²

Coaching is the centerpiece of the reflective practicum and is really the overarching concept under which all other aspects function. The coach must be a master of his art whether it is violin playing, painting, architecture, management, or military operations. Additionally, the coach must be able to effectively coach; so much so that Schön writes, “In a reflective practicum, the role and status of a coach take precedence over those of a teacher as teaching is usually

⁶¹ Speech of Donald Schön delivered to the 1987 meeting of the American Educational Research Association, Washington, D.C., available at www-pcd.Stanford.edu/other/Schön87.htm, last accessed on 01/23/03.

⁶² Schön, ERP, 37.

understood. The coach's legitimacy does not depend on his scholarly attainments or proficiency as a lecturer but on the artistry of his coaching practice."⁶³ Therefore, the concept of coaching vice teaching is absolutely critical to the successful reflective practicum. According to Schön, the education theorist John Dewey wrote, "He [the student] has to see on his own behalf and in his own way the relations between means and methods employed and results achieved. Nobody else can see for him, and he can't see just by being 'told,' although the right kind of telling may guide his seeing and thus help him see what he needs to see."⁶⁴ Subordinate to the concept of coaching, but also critical are the other components that essentially describe how the coach operates within the practicum.

The idea that Schön calls reflection-in-action is central to the roles of both coach and student. Reflection-in-action is assessment of self, environment, activity, and result during the act of performing the requisite art within the practicum. As the student begins the performance of his art the coach observes and through the student-coach dialogue causes the student to assess why he is doing what he is doing, why it did or did not work, or what biases might have brought him to an inappropriate action. Concurrently the coach conducts his own reflection-in-action to discover his crucial knowledge-in-action. In the student-coach dialogue the coach may demonstrate, question, cajole, challenge, or discuss the situation and actions taken by the student. During this process, however, the coach continuously reflects on his own performance as artist and performance as coach. For example if the coach demonstrates some aspect of his art for the student, he must reflect on his own action and be able to explain to the student why he did what he did or how he arrived at his solution. The coach acts, reflects, and explains nearly

⁶³ Schön, ERP, 311.

⁶⁴ John Dewey quoted by Schön, ERP, 17.

simultaneously. Since much of what the coach does, as master of his art, is seemingly intuitive, it is this process of reflection-in-action that allows him to communicate knowledge within the aforementioned "indeterminate zone." The continuous and simultaneous reflection-in-action by both coach and student is the process which makes the practicum work. When obstacles are encountered, further effective coaching can usually prevail to help the student perform.⁶⁵

The greatest obstacles to learning within the practicum, according to Schön, are the attitudes and biases of the coach and student themselves. He states, "Some studio masters feel a need to protect their special artistry. Fearing that students may misunderstand, misuse, or misappropriate it, these instructors tend, sometimes unconsciously, under the guise of teaching, to actually withhold what they know. Some students feel threatened by the studio master's aura of expertise and respond to their learning predicament by becoming defensive. Under the guise of learning, they actually protect themselves against learning anything new."⁶⁶ This coach-student tension results in what is called a "learning bind." This bind can be overcome by competent coaching and further reflection-in-action. The coach must attempt to establish within the student a willingness to imitate the master, at least temporarily, and then reflect on the experience. This is particularly difficult for many adults who aspire to a certain profession, particularly for those of the American culture that tends towards independence of thought and action. This being the case, however, Schön points out that "students in American culture, especially those fresh from an experience of adolescent rebellion, are likely to be profoundly ambivalent toward imitation, despising it in theory but embracing it in practice."⁶⁷ This

⁶⁵ Summarized from Schön, ERP, 22-40.

⁶⁶ ERP, 119.

⁶⁷ ERP, 121.

ambivalence can steer the student toward rote mechanical imitation that will not result in resolution of the learning bind. "Reflective imitation demands," writes Schön, "a willingness to do as the studio master is doing and, at the same time, reflect on what one does. Consciously entering into the master's way of designing, the student adds to his range of possible performance and extends his freedom of choice."⁶⁸ In addition to this reflective imitation, the other technique used to resolve the learning bind is what Schön terms reciprocal reflection-in-action which essentially amounts to concurrent assessment of the coach-student interaction by both student and coach within the process of continued student-coach dialogue.⁶⁹

It is useful to reiterate at this point that Schön did not come up with this theory of his own accord. He spent years observing artists at work in educational institutions and developed what he saw work into this theory of reflective practice. So if Schön is accepted as honest and authoritative, then his theory represents an educational method which can, if fact, result in the successful teaching of artistry. To be successful, however, may require an educational institution to adopt fairly drastic philosophical changes and provide valuable resources, not the least of which is the recruitment and transformation of masters of the requisite art into coaches capable of engaging in reflective practice. This should be done at Fort Leavenworth, where the Army hopes to teach its field grade officers the operational art.

⁶⁸ ERP, 121.

⁶⁹ Summarized from Schön, ERP, 138.

CHAPTER 4

ANALYSIS, ASSESSMENT, AND CONCLUSION

There is something I don't know
that I am supposed to know.
I don't know what it is I don't know
and yet am supposed to know,
And I feel I look stupid
if I seem both not to know it
and not know what it is I don't know.
Therefore, I pretend I know it.
This is nerve-wracking
since I don't know what I must pretend to know.
Therefore I pretend to know everything.

I feel you know what I am supposed to know
but you can't tell me what it is
because you don't know that I don't know what it is.

You may know what I don't know, but not
that I don't know it,
and I can't tell you. So you will have to
tell me everything.⁷⁰

R.D. Laing, *Knots*

The comparative analysis between Competency Based Learning and Reflective Practice is problematic because to a certain degree it represents what is commonly referred to as an “apples and oranges” dilemma. Although competency based learning is touted as a method of instruction, it appears to be something else; namely, a means of curriculum development. Reflective Practice, on the other hand, is both a method of instruction and a method of learning. Therefore, to compare the two side-by-side as like entities is very difficult and not useful. Instead, the two are compared in the chapter in a few different ways. First, each is

⁷⁰ R.D. Laing, *Knots* (New York: Pantheon, 1970) quoted in Chris Argyris and Donald A. Schön, *Theory in Practice: Increasing Professional Effectiveness* (San Francisco, Jossey-Bass, 1974), 56.

compared and assessed against the intellectual aspects of the Army outlined in chapter one: quality of instructors, training versus education, personnel system, practice, and anti-intellectualism,. Second, and most importantly within the context of this monograph, the two are compared and assessed as to their potential for teaching the operational art.

Quality of Instructors

Competency Based Learning as envisioned by Cubic and Reflective Practice both advocate and emphasize teacher excellence. The Cubic study noted that, "To provide students greater opportunity to learn the art in execution, more experienced instructors are required in the classroom. At a minimum, the CC [Core Course] will require fully branch-qualified majors or lieutenant colonels. The AOWC will require a greater mix of former battalion and brigade commanders."⁷¹ This statement by Cubic indicates a desire to conduct experiential teaching at ILE and AOWC. It is rather superficial, however, because it implies that a good operator is necessarily a good teacher. This approach, quite possibly better than the status quo, may not necessarily improve the teaching at CGSC, and will certainly increase the "operator centrism" that was discussed in chapter one. Schön, in his method of reflective practice, emphasizes the need for teachers to be a master of their art. But he also demands that they be a masters of coaching. He says, "In a reflective practicum, the role and status of a coach take precedence over those of a teacher as teaching is usually understood. The coach's legitimacy does not depend on his scholarly attainments or proficiency as a lecturer but on the artistry of his coaching practice."⁷²

⁷¹ Cubic, 1-6.

⁷² Schön, ERP, 311.

Relative to the criteria of quality of instructors, there is no clear advantage on either side of the analysis except one of specificity. The Cubic conclusion, which advocates a Competency Based approach supported by several methods of instruction, makes very broad-brush conclusions about teacher competency (e.g. branch qualified or previous command). Its weakness is that it does not match up competency of practice (e.g. tactics or operational art), with competency of teaching (e.g. Socratic, thematic, or reflective practice). Schön, on the other hand, recognizes that a good practitioner may not necessarily be a good teacher or coach, and he accounts for this in his theory. In other words, if you are out to teach a student your art, you must not only be an artist in practice, you must also be an artist at coaching. It is useful, therefore, to conclude that teacher excellence must be defined within the model selected for an educational institution in specific regard to both the matter and manner of teaching.

Training versus Education

Lieutenant General (Retired) L.D. Holder, one of the thinkers behind contemporary American operational thought very succinctly described the training versus education conundrum as it relates to operational art when he wrote,

The teaching problem is complex in any case, because theater operations fall more clearly into the domain of art than that of science. Below the level of broad principles, each situation varies so strongly in personal, geographical, demographic, historical, and economics details that the teaching of operational art will resemble political science more than small unit tactics. While that kind of approach is common in civilian schools, any such teaching will have to overcome the U.S. military's strong predilection for the scientific, concrete, and demonstrable. The impossibility of developing an operational checklist alienates many officers new to the subject.⁷³

The checklist approach that General Holder describes is precisely what competency-based learning degenerates toward, and is, therefore, quite inappropriate to teach the operational art.

⁷³ Major General L.D. Holder, *On Operational Art*, "Education and Training for Theater Warfare," Clayton R. Newell and Michael D. Krause, eds., (Washington, D.C.: Center for Military History, 1994), 174.

Competency Based Education and Training (CBET) is a relatively new educational model that became popular in the United States in the 1970s for vocational education. It is a performance-based model. Sandra Kerka, the deputy director of the Educational Resource Information Center (ERIC) Clearinghouse on Adult, Career, and Vocational Education at Ohio State University describes the two views of this controversial methodology. She states, "Proponents of CBET promote it as a way to improve the correspondence between education/training and workplace requirements (Harris et al. 1995). It is individualized, emphasizes outcomes (what individuals know and can do), and allows flexible pathways for achieving the outcomes. It makes as clear as possible what is to be achieved and the standards for measuring achievement."⁷⁴ This view of a competency-based approach is consistent with that of the authors of the Cubic ILE analysis. Opponents of Competency Based Learning, however, view it as, "excessively reductionist, narrow, rigid, atomized, and theoretically, empirically, and pedagogically unsound."⁷⁵

Ms. Kerka points out that both the proponents and opponents of competency based learning agree that it is unsound when advocated in behavioral terms. "The behaviorist framework," she says, "breaks down competence into the performance of discrete tasks, identified by functional analysis of work roles. This analysis is the basis for competency statements or standards upon which competence is assessed and toward achievement of which CBET is directed."⁷⁶ It appears that this is precisely what has been done in the ILE analysis and advocated for use by the Command and General Staff College. This approach, according to Kerka's analysis, is inappropriate because it takes tasks out of context and isolates them from the

⁷⁴ Sandra Kerka, Competency-Based Education and Training (Columbus, OH: 2003) [database on-line]; available from ERIC.

⁷⁵ Kerka, 1.

real world of complexity and interconnection. Therefore, the so-called competency achieved through this method does not hold up in practice the way it appears to in theory.⁷⁷ She writes, “Instead, studies of the development of expertise as well as the constructivist view of learning suggest that people make judgements and review, reflect on, and change behavior, continually reconstructing relevant and useful knowledge as they interact with a situation.”⁷⁸ The competency-based approach, therefore, can be viewed as more like training than education. The Cubic approach, however, attempts to mitigate this somewhat with its inclusion of other teaching models (e.g. Socratic) that are very much within the norm of graduate education. Reflective practice, like the competency-based approach, can also be viewed as more like training than education, particularly by traditionalists.

The theory of reflective practice holds that masters of their art possess knowledge that cannot be transmitted to students through other teaching techniques. These practitioners can only express their knowledge in action (remember Schön’s falling off the bicycle example?). This is done in the practicum, or environment of practice under a coach. To many, this environment of the hands-on, practical application of knowledge is the antithesis of the intellectual development and rigor that occurs in a traditional academic (e.g. Socratic) environment. For example, in the School of Advanced Military Studies, there is an ongoing debate between those who advocated traditional, rigorous, Socratic instruction and those who advocate temperance of the traditional education with increased practical application and experiential learning aimed at increasing the competence, and hence relevance, of the SAMS

⁷⁶ Kerka, 1.

⁷⁷ The Cubic analysis repeatedly calls for use of a variety of Socratic, thematic, experiential, and competency-based learning methods, however it does not specify when, how, or how much for each and consistently labels its recommended overarching educational approach as competency-based.

⁷⁸ Kerka, 2.

graduates. Those seeking traditional intellectual rigor advocate a curriculum that uses the Socratic method almost exclusively, while those seeking relevance advocate an increased role for experiential learning using practica. Those advocating the Socratic method seem to place practica in the same category that we place competency-based learning—vocational education.⁷⁹ This view, however, is based on lack of understanding.

Competency based learning and reflective practice are at opposite ends of the practical experience spectrum. The competency based approach seeks to distill performance down to its simplest parts that can be discerned, taught, and assessed; then retaught as required so the student can achieve the desired level of competence. Reflective practice, on the other hand, holds that the critical aspects of art cannot be discerned and taught; rather they are recognized and internalized through the artful coaching of the master.

The Personnel System

Reflective practice and competency-based learning both seek high quality teachers, as discussed above. Therefore, for either to be successful, the Army must change those aspects of its personnel system, which results in the assignment of poorly qualified personnel to the faculty of CGSC. The Cubic study states,

The Army must assign and reduce the turnover of high quality instructors to CGSC to take advantage of an improved curriculum and superior teaching methods. These instructors must include former brigade and battalion commanders, branch-qualified majors and lieutenant colonels, specialists in specific areas, with command and staff experience in Army and Joint units, overseas and in CONUS. Use of contracted former battalion and brigade commanders and former higher echelon staff officers is a viable option. Tenured faculty, both Army and civilian, for selected positions is strongly recommended. If the Army seriously wants students to understand the “Art and Execution” in

⁷⁹ Author’s observation of AMSP curricula, teaching, and practica at Fort Leavenworth, and discussions with various faculty while posted as an Advanced Operational Arts Fellow, Academic Year 2002-2003.

war, it will have to ensure it has experienced tactical and operational artists who know how to paint.⁸⁰

All sources seem to acknowledge and agree on this point. Not only must the right teachers be assigned, they must be rewarded for it. This will result in an increased willingness for those at the top of their profession to leave the world of practice for the academic world, or to travel freely and competently between the two. Schön states, "In order for a professional school to give a central place to coaching, it must tailor its incentives and career paths—its criteria for promotion, salary, and academic tenure—to provide institutional support for the coaching function."⁸¹

It can be concluded, therefore, if either one or both of these educational methods—reflective practice or competency-based—is established as intended, then the personnel system must change to accommodate the requirements for better teachers. The overall effect of this would undoubtedly be positive for the Command and General Staff College and the professional officer education conducted there.

Practice

The competency-based model advocated by Cubic, and reflective practice both advocate practical application of knowledge as part of a program of learning. The difference between the two is subtle but very significant. A competency-based practical exercise is designed to teach or reinforce a specified set of discernable skills or competencies. Much like the Army's performance-oriented training system, an exercise must have a set of relevant training objectives, each of which must be accomplished to the stated standard. A practical exercise that uses reflective practice (a practicum) goes beyond this. The deliberate interaction between coach and

⁸⁰ Cubic, 20-3 to 20-4.

⁸¹ Schön, ERP, 311.

student, along with deliberate reflection by each, results in a qualitative leap. The student, through his interaction with the coach, absorbs the indeterminate knowledge that emerges from the coach's practice.⁸² It cannot be described, listed, or ticked off a checklist—it is the art that the institution is seeking to teach. Reflective practice, then, may provide a significant qualitative advantage over a competency-based approach in the conduct of meaningful practical exercises.

Anti-intellectualism

Reflective practice and competency-based learning could, arguably, counter anti-intellectualism in the Army. Both advocate the accession of competent practitioners as teachers, and a personnel system that rewards them. Competency-based learning, however, in its basest form, is vocational training. It has the potential to be otherwise, but is more often than not executed in its simplest form. Sandra Kerka writes, "CBET interpreted broadly could thus be compatible with a cognitive view of learning, unlike its behaviorist form However, in practice, competencies are being specified and assessed too narrowly and can work to hinder education and training, especially if used as a curriculum document to teach discrete tasks or used to assess superficial aspects."⁸³ In other words, a competency-based approach generally degenerates within an institution towards its behaviorist form (i.e. heavy on training, light on education). The Army as an institution is very comfortable with training and would most likely contribute to this degeneration of competency-based learning at CGSC. The resulting cant toward training instead of education may act against anti-intellectualism, but it would most likely decrease the quality of the whole officer education.

⁸² Schön's observations of the design studio showed a perceived marked increase in competence and artistry in students who conducted reflective practice in the architectural design studio under the tutelage of a master. See Schön, ERP, 44-79.

⁸³ Kerka, 2.

The accession of high-quality instructors for CGSC and the associated adjustments to the Army personnel system would, at face value, help to counter anti-intellectualism. The Cubic study, however, seems to focus its efforts in this regard on acquisition of former battalion and brigade commanders as teachers. This contributes to the operator centrism indicated in Lloyd Matthews' study discussed in chapter one. Giving the operators even more advantages within the personnel system by making them teachers and then rewarding teachers within that system would only further exacerbate the problem. If, on the other hand, teacher qualifications are examined more holistically, then it may be possible to have a positive effect on anti-intellectualism. As indicated by Schön, the best practitioner may not be the best teacher; although to be a good teacher one must be a competent practitioner. Certainly competence and mastery of the art are prerequisites, but competence at teaching and coaching are also required, as previously discussed.

The overall effect reflective practice may have on the Army's culture of anti-intellectualism is unknown. The true litmus test for any educational technique, particularly in regard to the subject of this study, is its real or perceived effect in the field. Whatever technique produces the best and most effective operational practitioners is the desired one and the one that the Army will embrace regardless of its theoretical or intellectual foundations.

The Operational Art

Of the educational theories and techniques discussed in this monograph, only reflective practice has the potential to facilitate the teaching of the operational art in an academic setting. This contention is based on the assessment that the operational art is a kind of artistic expression akin to the performing and design arts examined by Schön. Therefore, if one accepts the notion that the operational art is an art form consisting of esoteric components like vision, indeterminate

knowledge, creativity, and the like, then the method of instruction one chooses to establish the capability to practice the art in the student must account for this. Schön's method of reflective practice appears to be the only method that does. Clearly then, the method of reflective practice should be included as a technique used within the curriculum at the Command and General Staff College to improve instruction and learning of the operational art.

The research and discussion included in this monograph clearly show that reflective practice, as an educational method, can improve the Officer Education System. Specifically, at the Command and General Staff College reflective practice should be incorporated to varying degrees in the Intermediate Level Education, the Advanced Operations and Warfighting Course, and the Advanced Military Studies Program.

CHAPTER 5

RECOMMENDATIONS

The translation of theory into practice always involves a prosaic but vital education effort. It lies with military educational institutions to teach the principles of operational art to their leaders and staffs and integrate operational thinking into their established training programs and planning activities. To complicate this adjustment, they will have to accomplish the change with men and methods developed in the forty years of the immediate past when theater operations were largely ignored and reputations were made elsewhere. Only by making basic changes in professional education and training can the discipline of operational art really enter into American military practice and contribute to national security.⁸⁴

Major General L.D. Holder, "Educating and Training for Theater Warfare"

Reflective practice is an educational method that can drastically increase the effectiveness of teaching the operational art at CGSC. It is not, however, an overarching method that should be widely adopted across the curricula there. Within the curricula, however generated, the educational objectives must be correctly matched to the method of instruction, and the instructor must be correctly selected to reach these objectives using the associated methods. There is certainly subject matter that is best taught using the Socratic method, other material may be best taught using a competency-based approach, and reflective practice is quite clearly better than either of those for teaching the operational art. What is taught, where, how, and by whom will differ depending on the program.

Teaching the Operational Art in ILE

Intermediate Level Education will be universal and is, therefore, a course for generalists. The theory of operational art should be taught to the Army Majors that attend this course to the level required, and using an educational methodology to establish a basic ability to comprehend

⁸⁴ Holder, 171.

it. As General Holder stated, "All future theater staff officers must gain a general understanding of military art at the operational level in the schools, especially while the subject is new to the services. Of greater short term importance is their practical education in deploying, supporting, moving, and fighting air forces, fleets, and large air-land formations. There is more to the mechanics of this type of activity than most officers know."⁸⁵ In other words, a course like ILE should be very heavy in the science of war and very light on the art of war at the operational level. This, then, suggests that the competency-based approach is well suited for ILE with some general instruction, perhaps using the Socratic method, about operational art. Teachers of ILE should be competent, well-qualified practitioners of tactics, joint and combined operations, and war fighting in accordance with the recommendations put forth in the Cubic study.

Teaching the Operational Art in AOWC

The Advanced Operations and Warfighting Course is where the first substantial teaching in the operational art should occur. The officers who attend this course will remain, for the most part, in the operations career field for the remainder of their careers. Their depth of understanding the history, theory, doctrine, and application of operational art must exceed that of the general officer population that attends ILE, because they will provide the vast majority of operational level commanders and general staff officers for the Army. Therefore, in this course the educational methods employed should go beyond the competency-based ones employed in the ILE core course. Arguably, then, AOWC is where Army operators should first undergo a practicum using Schön's method of reflective practice. In order to successfully conduct operational art practica in AOWC, there must be resident operational artists/coaches available in addition to the ILE/AOWC base faculty. Recommended qualifications for these positions will be discussed later in the monograph.

⁸⁵ Holder, 175-176.

Teaching Operational Art in AMSP

The Advanced Military Studies Program in the School of Advanced Military Studies is and should remain the center of gravity of the operational art in the U.S. Army. It is here that the future operational artists should receive their most substantive education and practice in their art, including multiple practica using the theory of reflective practice.

Currently, officers are selected to attend AMSP from among the students at CGSOC, with some exceptions. All officers considered are volunteers, and beyond that the selection criteria appears to be only loosely tethered to the personnel system and highly idiosyncratic. To seriously and effectively develop practitioners of the operational art, however, this selection process should be more disciplined. According to General Holder, "To improve the preparation of such officers, the services will have to select them deliberately and fairly early in their careers. The services will also have to educate these officers appropriately in their own schools and track their assignments carefully."⁸⁶ ILE and AOWC are where officers should be identified and selected for attendance at AMSP. If selection could be made during ILE, then AOWC could potentially be split into two distinct tracks, one with a curriculum specifically designed to tie into the AMSP curriculum. If this were possible, then officers selected for AMSP who are not in the operations career field could attend AOWC as well (assuming any officers not in the operations career field should be selected for AMSP). In any case, the selection criteria should be firmly established in a disciplined way that supports the Army's need for practitioners of the operational art.

The faculty at AMSP is very good, relative to the faculty in the remainder of CGSC. If the improvements in CGSC faculty recommended by Cubic are adopted, then the faculty there

⁸⁶ Holder, 176.

will be on par with that of AMSP. Therefore, continued improvement in the AMSP faculty should be pursued.

First, the School of Advanced Military Studies should clearly define its selection criteria for the Advanced Operational Art Studies Fellowship (AOASF) in the same disciplined, Army-supporting manner recommended above for AMSP. Additionally, the school should actively recruit officers selected for the Senior Service College (SSC) who meet criteria for the program. The officers selected for this fellowship will provide the seminar leaders for AMSP instruction and their importance, therefore, cannot be overstated. Assessing the right officers, with the right skills, experience, intellect, and personality is demanded, and should be a top priority for the school and the Army.

Secondly, the officers who are selected for AOASF and subsequently for AMSP instructor positions should be educated in the operational art at the graduate level, to include multiple practica using reflective practice. Also, they should be educated and practiced in the specific educational methods that they are expected to employ as AMSP seminar leaders, whether these are Socratic, thematic, reflective practice, or others.

Third, the philosophical and educational gap that exists between the tenured civilian faculty and the temporary military faculty (AOASF graduates who teach for one academic year) should be bridged by a tenured active duty military faculty. This faculty could be developed along the model used at the U.S. Army War College, which sends graduates to acquire a relevant terminal degree before returning to the college to teach until retirement. In any case, tenured military faculty at SAMS could potentially serve as the operational artists/coaches required for reflective practica, or they could be educated as educators to improve the quality of curriculum

and educational methods employed at AMSP. These same roles could be shared or split with an active and well-qualified adjunct faculty.⁸⁷

Lastly, SAMS should effect a satisfactory level of curriculum integration with ILE and AOWC. This is somewhat problematic, since SAMS currently enjoys near full autonomy in regard to AMSP curriculum. Understandably, and probably correctly, SAMS does not want to lose this autonomy, to which much of their success may be due. Establishing the aforementioned AMSP-track of AOWC would make this less problematic for SAMS, but may be resisted by the academic bureaucracy of CGSC. At the very least, the faculty at SAMS should fully examine the ILE and AOWC curricula so that they can take advantage of the learning that has already occurred there, and, in essence, integrate the AMSP curriculum. Additionally, SAMS could then “push back” some graduate degree requirements to AOWC rather than fulfilling those requirements at AMSP. Specifically, AOWC students competing for AMSP should be required to complete their Master of Military Art and Science degree prior to arriving at SAMS. This would allow SAMS to eliminate or change its forty-page monograph requirement, which would provide more time for other academic priorities.

Operational Artists

Successful reflective practice is dependent on the coach being a master of his art and a master of coaching. The coach for reflective practice at CGSC, then, must be an operational artist and an expert at coaching.

In all probability, there are no two authorities that have like ideas on the qualifications for being an operational artist. Certainly there must be intellectual, experiential, educational, and

⁸⁷ The current adjunct faculty consists of three retired senior officers with varying levels of experience, interest, skill, and expertise in the operational art and the AMSP program. According to the Executive Officer of the School of Advanced Military Studies (email to author, 19 March 2003) the annual cost for their services is in excess of \$400,000.

personality components. In the words of the military theorist Clausewitz, "Any complex activity, if it is to be carried on with any degree of virtuosity, calls for appropriate gifts of intellect and temperament."⁸⁸

The operational artist possesses a substantial and well-developed intellect. He should have great capacity for free thought and should be intellectually confident, but open-minded. Clausewitz, who described this in his Chapter "On Military Genius" stated, "If we pursue the demands that war makes on those who practice it, we come to the region dominated by the powers of intellect. War is the realm of uncertainty; three quarters of the factors on which action in war is based are wrapped in a fog of greater or lesser uncertainty. A sensitive and discriminating judgment is called for; a skilled intelligence to scent out the truth."⁸⁹

Experientially, the operational artist has, like all officers, significant experience including company command at the tactical level. At the very least, he is branch qualified at the field grade level.⁹⁰ He has extensive experience at the operational level in joint assignments. He may have been a battalion or brigade commander, but this indication of quality in an operator-centric personnel system does not necessarily translate into the same quality in the context of operational art. This notion is supported by General Holder who stated, "Effectiveness in low level command is an important but not infallible indicator of potential. Candidates for joint staff specialization should also show promise for large-scale intelligence, logistics, or operations—all of which differ from their tactical counterparts in scope, complexity, and length of planning

⁸⁸ Carl von Clausewitz, *On War*, eds., trans. Michael Howard and Peter Paret (Princeton, N.J.: Princeton University Press, 1976), 100.

⁸⁹ Clausewitz, 101.

⁹⁰ Branch qualified in most specialties in the operations career field is defined as service as a operations officer or executive officer as a Major in a tactical unit.

horizon.”⁹¹ Therefore, acumen at the operational level should have primacy over acumen at the tactical level within the operational artist, although it is recognized that they are not mutually exclusive qualities. Suffice it to say that the operational artist has much more joint experience at the operational level than does his contemporaries, which may, in the final analysis, exclude many successful tactical commanders.

The operational artist is well educated in his art. Using the educational programs currently in place, one could posit that the operational artist, at a minimum, has graduated from ILE, AOWC, and AMSP and/or AOASF, and is Military Education Level 1 qualified.⁹² He may or may not have other civilian graduate education or degrees, but relevant additional civilian education would certainly have positive benefit for the operational artist.

The successful operational artist must have a certain temperament and determination.⁹³ These personality traits are not necessarily those desired for successful coaching, which is what operational artists do within an educational system that includes reflective practice. Therefore, operational artists who serve as coaches in reflective practice must have the capability to react situationally and exhibit the temperament and skills indicated by Schön for successful coaching. The artist’s capacity to coach may be determined through psychological testing, or further developed through education.

Final Thoughts

The Army’s transformation of the OES is needed and well intentioned. The study done by Cubic is a fair product effort that will result in a curriculum that is better than the current

⁹¹ Holder, 177.

⁹² Military Education Level 1 (MEL-1) qualified indicated a Senior Service College (SSC) graduate.

⁹³ See Clausewitz, On Military Genius, 100-112.

curriculum for ILE if the comprehensive recommendations regarding faculty and educational methods are adopted. As expectations rise toward away from basic science and toward art in AOWC and AMSP, then the Cubic recommendations lose their appropriateness. The Command and General Staff College should continue to refine the recommendations from Cubic to ensure that the more complex, indeterminate capabilities are developed by officers who need them. CGSC should fully study the advantages offered by reflective practice, particularly when teaching operational art, and incorporate this technique into its educational methodologies in practice.

Bibliography

Books

Argyris, Chris and Schön, Donald. *Theory in Practice: Increasing Professional Effectiveness*. San Francisco: Jossey-Bass, 1974.

Argyris, Chris and Schön, Donald. *Organizational Learning: A Theory of Action Perspective*. Reading, Massachusetts: Addison-Wesley, 1977.

Bowden, Mark. *Black Hawk Down*. New York: Atlantic Monthly Press, 1999.

Clausewitz, Carl. *On War*. Eds., trans. Michael Howard and Peter Paret, Princeton, N.J.: Princeton University Press, 1976.

Gordon, Michael R. and Trainor, Bernard E. *The Generals' War*. Boston: Little Brown and Company, 1995.

Ignatieff, Michael. *Virtual War*. New York: Henry Holt, 2000.

Mintzberg, Henry. *The Rise and Fall of Strategic Planning*. New York: The Free Press, 1994.

Naveh, Shimon. *In Pursuit of Military Excellence*. London: Frank Cass, 1997.

Newell, Clayton R. and Krause, Michael D., eds. *On Operational Art*. Washington, D.C.: Center of Military History, 1994.

Schön, Donald A. *Educating the Reflective Practitioner*. San Francisco: Jossey-Bass, 1987.

Schön, Donald A. *The Reflective Practitioner*. Basic Books, 1983.

Periodicals

Cohen, Elliot A. "A Tale of Two Secretaries." *Foreign Affairs*, May/June 2002, 33-46.

Galvin, John R. "What's the Matter With Being A Strategist?" *Parameters*, March 1989 and Summer, 1995.

Matthews, Lloyd J. "The Uniformed Intellectual and His Place in American Arms, Part I: Anti-intellectualism In the Army Yesterday and Today." *Army Magazine*. July, 2002, 17-25.

Matthews, Lloyd J. "The Uniformed Intellectual and His Place in American Arms, Part II: The Effects of Anti-intellectualism On the Army Profession Today." *Army Magazine*. August, 2002, 31-40.

McCausland, Jeffrey D. and Martin, Gregg F. "Transforming Strategic Leader Education for the 21st-Century Army." *Parameters*, Vol XXXI, No. 3, Autumn 2001, 17-33.

Murray, Williamson. "The Army's Advanced Strategic Art Program." *Parameters*, Winter 2000-01.

Shelton, Henry H. "Professional Education: The Key to Transformation." *Parameters*, Vol XXXI, No. 3, Autumn 2001. 4-16.

Government Documents

Department of the Army. *Field Manual 100-5, Training the Force*. Washington, D.C.: U.S. Government Printing Office, 1988.

Department of the Army. *Department of the Army Pamphlet 600-3, Commissioned Officer Development and Career Management*. Washington, D.C.: U.S. Government Printing Office, 1 October 1998.

Department of the Army Training and Doctrine Command. *TRADOC Regulation 351-10, Institutional Leader Training and Education*. 1 May 97.

Joint Chiefs of Staff. *Joint Publication 1-02, Department of Defense Dictionary of Military and Associated Terms*. Washington, D.C.: U.S. Government Printing Office, 12 April 2001.

Shinseki, Eric K. "Department of the Army Memorandum, Subject: Army Training and Leader Development Panel (Officer) Recommendations and Ongoing Actions." 22 Jan 2002.

Triggs, Maria. "Army to Transform Officer Education System." *Army News Service*, 4 February 2003.

United States Army Command and General Staff College. "Brief for Representative Ike Skelton on Officer Education System (OES) Transformation." Fort Leavenworth, KS: Command and General Staff College, 17 January 2003.

United States General Accounting Office. *Status of Recommendations on Officers' Professional Military Education: Briefing Report to the Chairman, Panel on Military Education, Committee on Armed Services, House of Representatives*. Washington, D.C.: General Accounting Office, 1991.

United States Senate. *Public Law 99-433, The Department of Defense Reorganization Act of 1986*. Washington, D.C.: U.S. Government Printing Office, 1986.

United States Senate. *Public Law 99-661, National Defense Authorization Act for Fiscal Year 1987*. Washington, D.C.: U.S. Government Printing Office, 1986.

Unpublished Manuscripts

Cubic Applications Incorporated. *Intermediate Level Education Needs Analysis*. Leavenworth, KS: Cubic Applications, 2001.

Schifferle, Peter J. *Anticipating Armageddon: The Leavenworth Schools and U.S. Army Military Effectiveness 1919 to 1945*. Doctoral dissertation, University of Kansas, 2002.

Schneider, James J. "What If We Fight Tonight? Advanced Military Education for the XXIst Century. Fort Leavenworth, KS: School of Advanced Military Studies, 15 February 1995, 1-13.

Wong, Leonard. "Stifled Innovation? Developing Tomorrow's Leaders Today." April 2002.

Internet

Anderson, L. "Argyris and Schön's Theory on Congruence and Learning," www.scu.edu.au/schools/sawd/arr/argyris.html, 1997.

Kerka, Sandra. "Competency-Based Education and Training." Columbus, OH: 2003. Database on-line, available from ERIC. www.ericacve.org/docs/cbetmr.htm

Russell, Tom. "Donald Schön's Presentation 'Educating the Reflective Practitioner' to the 1987 meeting of the American Educations Research Association, Washington, D.C." www-pcd.standord.edu/other/schon87.htm, 1998.

Smith, M.K. "Donald Schön: Learning, Reflection, and Change." *The Encyclopedia of Informal Education*, www.infed.org/thinkers/et-scho.htm, 2001.

Smith, M.K. "The Learning Organization," *The Encyclopedia of Informal Education*, www.infed.org/biblio/learning-organization.htm, 2001.